

10/580560

1AP20 Rec'd PCT/PTO 26 MAY 2006

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q95169

Koji KUDO, et al.

Appln. No.: Not yet assigned

Confirmation No.: Not yet assigned

Group Art Unit: Not yet assigned

Filed: May 26, 2006

Examiner: Not yet assigned

For: DISTRIBUTED-FEEDBACK SEMICONDUCTOR LASER, DISTRIBUTED-FEEDBACK SEMICONDUCTOR LASER ARRAY, AND OPTICAL MODULE

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. M Aoki et al. "85°C - 100Gbit/s Opeartion of 1.3-μm InGaAlAs MQW-DFP Laser", ECOC2000 Col. 1, pp. 123-124.
2. K. Nakahara et al., "115°C, 12-5Gb/s Direct Modulation of 1.3-μm InGaAlAs-MQW RWG DFB Laser with Notch-Free Grating Structure for Datacom Applications", OFC2003 PDP40.

INFORMATION DISCLOSURE STATEMENT  
New U.S. National Stage Entry of PCT/JP2001/016838

3. G. Shtengel et al., "High-speed Vertical-Cavity Surface Emitting Laser", IEEE Photonic Technology Letters, 1993, vo. 5, no. 12, pp. 1359-1362.
4. A. Ramakrishnan et al., "Electrically Pumped 10 Gbit/s MOVPE-Grown Monolithic 1.3 $\mu$ m VCSEL with GaInNAs Active Region", IEE Electronic Letters, 2002, Vol. 38, No. 7.
5. M. Uchida et al., "An AlGaAs Laser with High-Quality Dry Etched Mirrors Fabricated Using an Ultrahigh Vacuum in Situ Dry Etching and Deposition Processing System", IEEE Journal of Quantum Electronic, 1998, vol. 24, no. 11, pp. 2170-2176.
6. T. Yuasa et al., "Performance of Dry-Etched Short Cavity GaAs/AlGaAs Multiquantum-Well Lasers", Journal of Applied Physics, 1998, vol. 63, no. 5, pp.1321-1327.
7. T. Aoyagi et al., "Recent Progress of 10Gb/s Laser Diodes for Metropolitan Area Networks", SPIE, 2001, vol. 4580, APOC 2001, Beijing, China.
8. Y. Itaya et al., "Low Threshold Current GaInAsP/InO DFB Lasers, " IEEE Journal of Quantum Electronics, Vol. QE-23, No. 6, June 1987, pp. 828-834.
9. United States Patent No. 4,740,987, issued April 26, 1988.
10. United States Patent No. 4,796,273, issued January 3, 1989.
11. United States Patent Application Publication No. 2003/0021319, published January 30, 2003.
12. Japanese Patent Publication No. 63-80590, published April 11, 1988.
13. Japanese Patent Publication No. 3-283483, published December 13, 1991.

INFORMATION DISCLOSURE STATEMENT  
New U.S. National Stage Entry of PCT/JP2001/016838

14. Japanese Patent Publication No. 62-112391, published May 23, 1987.
15. Japanese Patent Publication No. 2002-198611, published July 12, 2002.
16. United States Patent Application Publication No. 2002-0159705, published  
October 31, 2002.
17. Japanese Patent Publication No. 63-62390, published March 18, 1988.
18. Japanese Patent Publication No. 8-186334, published July 16, 1996.
19. Japanese Patent Publication No. 2624140, published April 11, 1997.
20. Japanese Patent Publication No. 2003-46190, February 14, 2003 (corresponds to  
U.S. Patent No. 6,888,869).
21. Japanese Patent Publication No. 2545994, published August 8, 1996.

One copy of each of the listed documents is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant states that the listed references are either cited in the International Search Report or within the specification.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not

10/580560

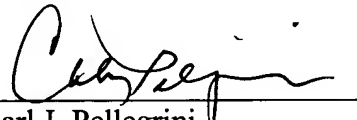
1AP20 Rec'd PCT/PTO 26 MAY 2006

INFORMATION DISCLOSURE STATEMENT  
New U.S. National Stage Entry of PCT/JP2001/016838

waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Carl J. Pellegrini  
Registration No. 40,766

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: May 26, 2006

Substitute for Form 1449 A & B/PTO				Complete if Known	
				Application Number	Not yet assigned
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				Confirmation Number	Not yet assigned
				Filing Date	May 26, 2006
				First Named Inventor	Koji KUDO
				Art Unit	Not yet assigned
				Examiner Name	Not yet assigned
Sheet	1	of	2	Attorney Docket Number	Q95169

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US 4,470,987	A	04-26-1988	McCall et al.
		US 4,796,273	A	01-03-1989	Yamaguchi
		US 2003/0021319	A1	01-30-2003	Aoki
		US 2002/0159705	A1	10-31-2002	Naniwae

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> <i>(if known)</i>			
		JP	63-80590		04-11-1988		
		JP	3-283483		12-13-1991		
		JP	62-112391		05-23-1987		
		JP	2002-198311		10-31-2002		
		JP	63-62390		03-18-1988		
		JP	8-186334		07-16-1996		
		JP	2624140		04-11-1997		
		JP	2003-46190		02-14-2003		
		JP	254994		08-08-1996		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		M Aoki et al. "85°C - 100Gbit/s Opeartion of 1.3-μm InGaAlAs MQW-DFP Laser", ECOC2000 Col. 1, pp. 123-124.	
		K. Nakahara et al., "115°C, 12-5Gb/s Direct Modulation of 1.3-μm InGaAlAs-MQW RWG DFB Laser with Notch-Free Grating Structure for Datacom Applications", OFC2003 PDP40.	
		G. Shtengel et al., "High-speed Vertical-Cavity Surface Emitting Laser", IEEE Photonic Technology Letters, 1993, vo. 5, no. 12, pp. 1359-1362.	
		A. Ramakrishnan et al., "Electrically Pumped 10 Gbit/s MOVPE-Grown Monolithic 1.3μm VCSEL with GaInNAs Active Region", IEE Electronic Letters, 2002, Vol. 38, No. 7.	
		M. Uchida et al., "An AlGaAs Laser with High-Quality Dry Etched Mirrors Fabricated Using an Ultrahigh Vacuum in Situ Dry Etching and Deposition Processing System", IEEE Journal of Quantum Electronic, 1998, vol. 24, no. 11, pp. 2170-2176.	
		Y. Itaya et al., "Low Threshold Current GaInAsP/InO DFB Lasers, " IEEE Journal of Quantum Electronics, Vol. QE-23, No. 6, June 1987, pp. 828-834	
		T. Aoyagi et al., "Recent Progress of 10Gb/s Laser Diodes for Metropolitan Area Networks", SPIE, 2001; vol. 4580, APOC 2001, Beijing, China.	
		T. Yuasa et al., "Performance of Dry-Etched Short Cavity GaAs/AlGaAs Multiquantum-Well Lasers", Journal of Applied Physics, 1998, vol. 63, no. 5, pp. 1321-1327.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or follow the hyperlink from the title of the document to the intranet. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.